

Open Literature Review Summary

Chemical Name: Imidacloprid

CAS No: 138261413

MRID: 47699425

Record Number and Citation:

Schmuck, R., Schramel, O. “Residue Levels of imidacloprid and imidacloprid metabolites in nectar, blossom and pollen of Summer rape cultivated on soils with different imidacloprid residues levels and effects of these residues on Foraging Honeybees.”

Summary of Study Findings:

This study was in compliance with good laboratory practice. Summer rape was dressed with Poncho FS 600. During the rapeseed peak bloom small honeybee hives of 2,000 to 3,000 were placed on respective plots, one control and four treatment plots were used.

A combination of treatment plots were used to conduct the study, three of the treatment plots were sown with imidacloprid free seed in imidacloprid contaminated soil. The fourth plot was sown with gauchho seed in imidacloprid-free soil. The application history of the plots is at the end of summary.

Imidacloprid was detected in treatment soils for the first three plots at concentrations for at 0.016, 0.013, and 0.014 mg/kg, respectively and below the levels of quantitation (LOQ) in leaves samples. In the fourth plot, leaf residues were below the LOQ of 0.006 mg/kg of imidacloprid, hydroxy, 0.01 mg/kg olefin and below level of detection in all other areas.

The author states that no harmful behavioral effects were seen to the honeybee.

Rationale for Use:

Interaction between honeybee hive and imidacloprid treated maize plants. Honeybees after actions were tested and no levels of imidacloprid were found.

Limitations of Study:

No interaction of imidacloprid and honeybees in the environment could be due to low levels of the pesticide.

**** With regard to imidacloprid, study plots received since 1996 the following treatments':**

- **Control plot:** untreated grass area since 1996. Drilled with imidacloprid-free summer rape seed on 12 May 1999
- **Treatment 1.)-Variant 1997'':** cropped in fall 1997 with Gaucho treated winter wheat (77 g ai/ha), sprayed). on 24 April 1999 with 71.5 g/ha Gaucho WS 70 (50 g aifha imidacloprid; batch no. 233 614 749, 72.5% imidacloprid according to FAR no- 559-01). Drilled with imidacloprid-free summer rape seed on 12 May 1999.
- **Treatment 2.) - Variant 1998'':** cropped in spring 1996 with Gaucho treated sugar beet(111 g ailha), followed in fall 1998 by Gaucho treated winter barley (49 g ai/ha). Drilled with imidacloprid -free summer rape seed on 12 May 1999.
- **Treatment 3.) -Variant 1998 (2x)'':** cropped in spring 1998 with Gaucho treated sugar beet (105 g ai/ha) followed by Gaucho-treated winter wheat (76 g ailha). Drilled with imidacloprid –free summer rape seed on 12 May 1999.
- **Treatment 4.) -Variant 1999'':** untreated grass area since 1996. Drilled with Gaucho WS 70 treated summer rape seed on 12 May 1999 (33.5 g ailha).